

# (12) UK Patent Application (19) GB (11) 2 164 562A

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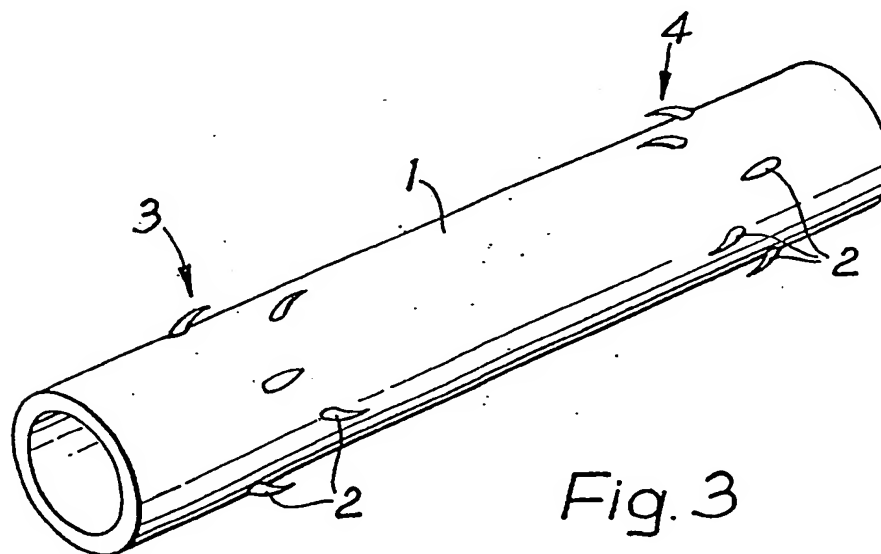
(52) Domestic classification  
A5R AR

(56) Documents cited  
None

(58) Field of search  
A5R

(54) Device to facilitate reconnection of tubular vessels in a body

(57) A surgical device for use in the joining of severed tubular vessels in the human or animal body comprises a bio-compatible tube (1) having a plurality of barbs (2) arranged circumferentially on the outer surface of said tube (1) and positioned near both ends of the tube (1) in groups (3), the tips of the barbs (2) in each group being directed away from the end of the tube (1). The bio-degradable material may be a bio-degradable glass, a polyglycolic acid, a polylactic acid or collagen.



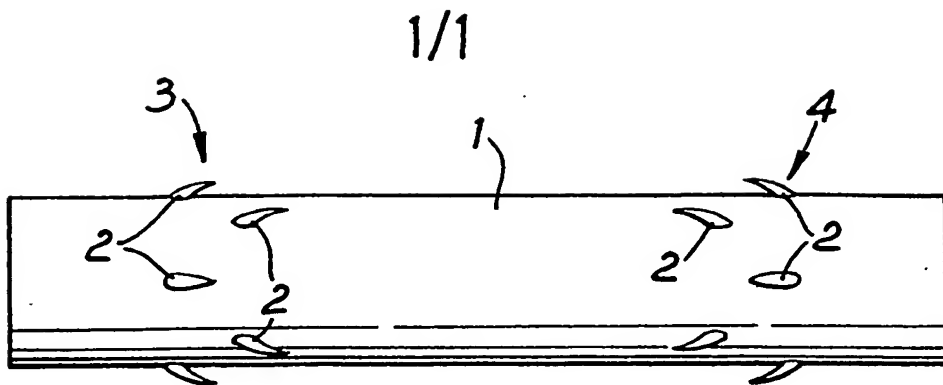


Fig. 1

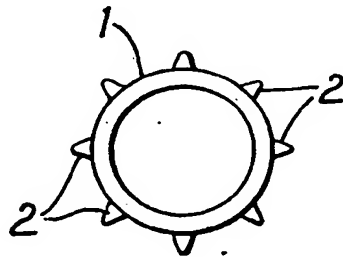


Fig. 2

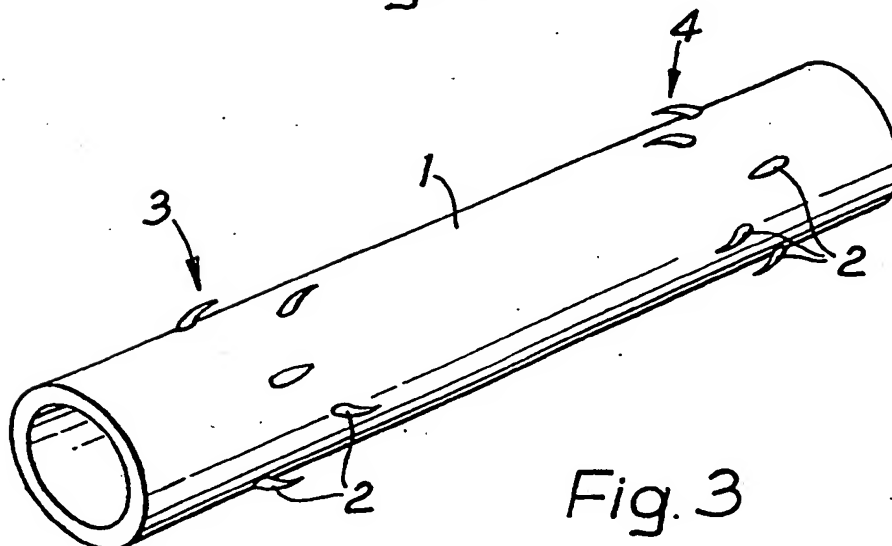


Fig. 3

## SPECIFICATION

### Surgical device

This invention relates to a device for use in surgery to facilitate reconnection of tubular vessels in the human or animal body such as severed arteries or veins.

During a surgical operation a great deal of time is spent in repairing damage to arteries and veins, such repair is mainly achieved by the delicate operation of suturing the severed ends of an artery or vein together.

The most dangerous aspect of surgery is the risk of shock to the patient. It is well known that a reduction in the duration of an operation reduces the possibility of shock.

Therefore if it is possible to avoid suturing or reduce the amount required by using an alternative means requiring less of the surgeon's time then an operation should be considerably shortened.

An object of the present invention is to obviate or mitigate the problems of suturing outlined above.

According to this invention there is provided a surgical device for use in the joining of severed tubular vessels in the human or animal body which comprises a bio-compatible tube having a plurality of barbs arranged circumferentially on the outer surface thereof and positioned near both ends of the tube in groups, the tips of the barbs in each group being directed away from the end of the tube to which the group is nearer.

The tube may be made from a bio-degradable material, for example a bio-degradable glass, a polyglycolic acid, polylactic acid or collagen.

The invention will now be described by way of

example with reference to the accompanying drawings in which:

Fig. 1 is a side view of a device of this invention, Fig. 2 is an end view of the device shown in Fig. 1; and

Fig. 3 is a perspective view of the device.

A surgical device of this invention comprises a woven or moulded bio-compatible material formed into a tube (1) provided with barbs (2) in groups (3) and (4) arranged circumferentially on the outer surface of the tube (1), the tips of the barbs (2) in each group being directed away from the end of the tube (1).

In use the device is simply pushed into the free ends of a severed artery or vein to form a union therebetween. The barbs resist separation of the joined ends so that suturing is not required.

## CLAIMS

1. A surgical device for use in the joining of severed tubular vessels in the human or animal body which comprises a bio-compatible tube having a plurality of barbs arranged circumferentially on the outer surface thereof and positioned near both ends of the tube in groups, the tips of the barbs in each group being directed away from the end of the tube to which the group is nearer.

2. A surgical device according to claim 1 wherein the tube is made from a bio-degradable material.

3. A surgical device according to claim 2 wherein the bio-degradable material is a bio-degradable glass, a polyglycolic acid, a polylactic acid or collagen.

4. A surgical device substantially as hereinbefore described with reference to the drawings.